



BB



# Rubber Dam and Appliances

# Absorbents and Accessories

# Wedging and Separating Devices

# **Orthodontic Appliances**

### The S. S. White Dental Mfg. Co.

CHESTNUT STREET, COR. TWELFTH, PHILADELPHIA, PA.

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# Treatment of Malocclusion of the Teeth, Angle's System

Seventh Edition, Greatly Enlarged and Entirely Rewritten, with Six Hundred and Sixty-six Illustrations

> By EDWARD H. ANGLE, M.D., D.D.S. President of the Angle School of Orthodontia, Etc.

> > Cloth, 8vo. Pp. 613. Price, \$5.00

A look through this edition of Dr. Angle's great work is enough to fire any dentist with the desire to become an orthodontist. To produce such results as are here shown by a wealth of illustration which carries conviction, is an achievement well worthy of any man's best efforts. To take a child whose teeth are so irregularly placed as to constitute a deformity, involving frequently the entire lower face, and transform the inharmony into lines of beauty is a beneficence than which no higher service is possible. But proper regulating does more than this. It assures health by bringing the teeth into natural occlusion, enabling them to perform their proper function.

How to do this is what Dr. Angle's treatise teaches. Time was when "regulating" was the most empirical of procedures. Dr. Angle's researches placed it upon a scientific basis, making the operation safe and sure.

The present volume is more than double the size of its predecessor and contains considerably more than twice the number of illustrations,—most of them photographs and therefore accurate. Case after case, exemplifying every phase and state of malocclusion is shown at various stages, from the original condition through the treatment to the final triumph.

Of course, the principles of treatment, the philosophy of the procedures, the classification of cases, as well as the details of their working out, are thoroughly explained.

## Orthodontia

Malposition of the Human Teeth, Its Prevention and Remedy

By S. H. GUILFORD, A.M., D.D.S., Ph.D.

Professor of Operative and Prosthetic Dentistry in the Philadelphia Dental College; Author of "Nitrous Oxide," etc.

Fourth Edition Thoroughly Revised

8vo. Cloth

220 Pages

163 Illustrations

Approved by the National Association of Dental Faculties as a text-book for use in the schools of its representation

Dr Guilford's work has been for long—ever since the first edition was published a standard text-book in the dental colleges, for which it was written by appointment. It teaches the philosophy of tooth movement, and describes the methods of correcting irregularities practiced by many prominent orthodontists, and gives details for the making of regulating appliances. The new edition is entirely rewritten and brought down to date. New classification, new illustrations, and certain chapters devoted to college teaching with suggestive outlines for college class work.

# Protection From Moisture

Under this head we have grouped our very complete line of appliances for protecting the field of operation from moisture while cavities are being prepared and fillings inserted

COMPRISING

Rubber Dam
Rubber=Dam Clamps
Rubber=Dam=Clamp Applying Forceps
Rubber=Dam Applier
Rubber=Dam Weights
Rubber=Dam Holders
Aprons or Bibs
Floss Silk
Ligature Twine
Absorbents
Absorbent Holders

For Saliva Ejectors and Mouth Tubes see Furniture Pamphlet

#### - 60

#### THE S. S. WHITE DENTAL MFG. CO.'S RUBBER DAM



#### STANDS STRETCHING, DOES NOT TEAR

This Rubber Dam is made especially for our sales and we insist upon the best possible quality. It possesses every Rubber-dam excellence—elasticity, toughness, and durability in the highest degree.

It is made of the best selected Up-River 'Fine' Madeira rubber, which is well known in the trade as the best stock produced. Its manipulation is that which produces the best result, though at the expense of a greater time and increased cost. There are newer and cheaper methods but they are discarded in favor of the old slow mode which involves the subjection of the rubber and sulfur, in sheet form, to the action of heat for a prolonged period. The result is that the natural extraordinary toughness and elasticity of the crude rubber are unimpaired and will be retained. When properly punched it will not tear.

Sold in rolls 6 inches wide, and in the sheet 36 inches wide, in two thicknesses, thin and medium.

The rolls are put up in cartons, yard and half-yard, and in metal cans, yard and half-yard.

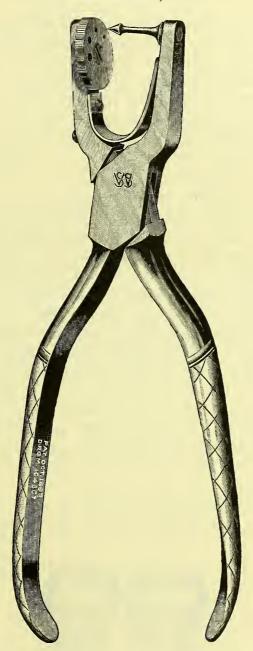
A yard, when sold in the roll, is 18 fect long; a half-yard, 9 feet; that is, there are 1296 square inches of Dam to the yard.

The frequent and violent fluctuations in the price of crude rubber, and consequently of Rubber Dam, make it inadvisable for us to quote prices

#### THE PERFECTED RUBBER-DAM PUNCH

THE S.S. WHITE

Patented October 18, 1898



The main reason for the steadily increasing use of the Perfected Rubber-dam Punch is that it cuts the smoothest, cleanest hole in the rubber dam. Beside this it is so built as to insure long service

with infrequent repairs.

The entire principle of the device is beautifully worked out. The rotating disk which carries the four sizes of punch holes moves exactly, so that each of the holes is brought into position to assure that the punch strikes accurately. The disk is of hardened steel, the edges of the holes sharp. The stem of the coned punch is flexible, giving perfect contact which makes the clean-cut, smooth-edged hole in the dam. The spring between the jaws instantly throws the punch back when the handles are released.

#### RUBBER-DAM CLAMPS

The history of the Rubber-dam Clamp is most interesting. To Dr. S. C. Barnum belongs the credit of originating or introducing Rubber Dam, or "Cofferdam Rubber," as it was originally called. This was in the year 1864, and the use of the Rubber Dam necessarily called for clamps for assisting in holding the dam upon the tooth.

Rubber-dam Clamps are of two distinct types: In the first type the dam and clamp are separately applied to or adjusted upon the tooth. In the second type the dam and clamp are applied or adjusted upon the tooth together, the dam first being attached to the clamp and the clamp then adjusted upon the tooth. Clamps of this type are provided with dam-engaging projections.

So far as is known, the first manufactured clamps were the original set of six, designed by Dr. Chas. F. Allan, manufactured and introduced by S. S. White prior to 1873. These were of the first type and were without dam-engaging projections. Four out of the six are still among the most popular clamps in use. New forms of the first type have been constantly added to the list, perhaps the most important contribution being Dr. Tees's famous festooned clamps. These appeared shortly after the Allan set, and Nos. 26 and 27 are today the most popular clamps in use.

The first clamp of the second type was "Dr. F. Hickman's Patent Doublelipped Rubber-dam Clamp," advertised in S. S. White's 1876 Catalog. The advertisement says: "These Clamps are made with a Double Lip, forming a clear space for the Rubber to be lodged in before applying to the tooth.



"When the Rubber is punched it is to be put on the Clamp by stretching it over the Lip A, and allowing it to fall into the open space between A and the Clamp proper. Then apply the Clamp and Rubber spreading both together; after which, stretch the Rubber out of the recess, or free space, and allow it to close on the neck of the tooth."

The next clamp of the second type was that of Dr. W. St. George Elliott, manufactured and introduced by S. S. White in 1878. It was not provided with integral dam-



engaging projections, but was formed with perforations, through which projected damengaging projections formed upon specially designed forceps.

The most important improvement to this type of clamp was made by Mr. J. W. Ivory. The particular dam-engaging projections which he added to the clamps admir-

ably adapted them for applying the dam together with the clamp, this form having gained great popularity.

Thus, without further particularizing, the list of clamps continued to grow from year to year until, in spite of numerous revisions, there is presented to the dentists an almost bewildering assortment. A very careful study of the clamp question recently made by us, showed the necessity of a sweeping revision. As a result, we have discarded a number of clamps of the type without dam-engaging projections, the sales of which have been gradually diminishing. Also, in order to meet the demand for S. S. White make of clamps of the second type, we have added twelve of the most popular clamps to our list, these for the most part consisting of certain of our well-known forms, to which we have added dam-engaging projections.

We therefore are now in a position to place before the profession clamps of both types bearing the S. S. White trade-\W-mark.

In offering the revised list we are confident that so far as steel, temper, finish, strength, workmanship and quality in general are concerned, no better clamps can be found; and we are likewise confident that so far as concerns variety of form and adaptation, they will meet the needs of the profession better than any other list of clamps ever offered. By careful selection and elimination of those which practically duplicated others, we have reduced the list to a comparatively small number of clamps, but we believe they will meet all practical needs. As occasion requires, however, we will, from time to time, add to the list other forms of both types of clamps.

#### RUBBER=DAM CLAMPS

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#### INTRODUCTION

Rubber Dam and Rubber-dam Clamps may be applied by two distinct methods. In the first method the Dam and Clamp are separately applied or adjusted to the tooth being treated. This may be done in two ways. Either by first stretching the Dam over the tooth and then adjusting the Clamp to the tooth over the Dam; or by placing the Clamp on the tooth and then stretching the Dam over the Clamp and the tooth.

The use of a little cacao butter, lanoline, or vaseline smeared lightly on the under surface of the rubber dam about the holes greatly facilitates the stretching of the dam over the clamp and tooth and lessens the tendency to tear.

The second method consists in applying the dam to the clamp, and then introducing the clamp carrying the dam to the tooth. After the clamp is thus adjusted, the dam is slipped off of the clamp on to the tooth. The dam may be applied to the clamp either by stretching the dam over the bow of the clamp, or by stretching the dam over dam-engaging projections on the clamp especially provided for the purpose.

The advantage of the new clamp (with dam-engaging projections) is that the dam and clamp are both applied to the tooth at once and a much better view of the work of applying the dam is obtained because the clamp and dam can be both stretched together sufficiently to see just where they are to be applied.

Fig. 1



Fig. 1 shows the dam stretched over the dam-engaging projections of our No. 200 Rubber-dam Clamp preparatory to carrying both to the mouth and applying them to the tooth with the aid of the clamp-expanding forceps.

Fig. 2

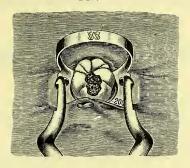


Fig. 2 shows clamp and dam applied to the tooth by the aid of the clamp-expanding forceps. The jaws of the clamp are firmly gripping the sides of the tooth and the forceps are just ready to be removed. The dam is still stretched over the dam-engaging projections of the clamp.

Fig. 3

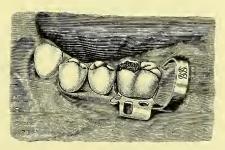


Fig. 3 is a side view of the dam and clamp applied to a molar and the dam arranged to include the cuspid and both bicuspids so as to get more room and a better view of the work in hand. The dam has now been disengaged from the dam-engaging projections of the clamp and is firmly hugging the tooth all around, the clamp now merely serving to hold the dam down and prevent it from slipping up and off the tooth.

In applying the dam with any of the larger molar clamps the largest hole made by the Perfected Rubber-dam Punch should be used. The smaller holes should be used when it is not necessary to stretch the dam over the clamp.

Ligatures are seldom necessary on the tooth which carries the clamp, but it is advisable to ligate one or more of the teeth over which the dam is stretched anterior to the clamp.

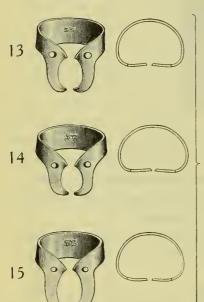
#### MOLAR CLAMPS

#### Without Dam-engaging Projections



From Dr. Chas. F. Allan's original set of twelve, the first set of clamps ever offered the profession. Still very popular. Flat jaws. Round hoop. Very stiff.

Price .....each \$0.40



Dr. Chas. F. Allan's Lower-molar Clamps. Extreme sctback, entirely clearing the tooth. Broad flanges for spreading the dam. Broad stiff hoops.

Price ......each \$0.40



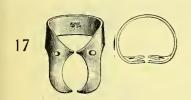
Designed by Chas. F. Allan especially for women's and children's molars. Very small hoop. Very narrow.

Price ..... \$0.40

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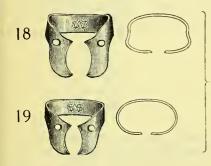
#### **MOLAR CLAMPS**

#### Without Dam-engaging Projections-Continued



Designed by Dr. Allan especially for women's and children's molars, light, small and very elastic. Has good setback and well-spread flanges, affording easy access to any cavity in the tooth. The small hoop allows an easy "open" to the patient and enables a very light clamp to hold the dam down securely without pain.

Price ..... \$0.40



Dr. Delos Palmer's Universal Molar Clamps.

Price ......each \$0.40



Dr. Delos Palmer's Clamp for posterior cavities in molars standing alone.

Price ..... \$0.40



Dr. Delos Palmer's Clamp for third molar or any molar of a cone shape. This clamp can oftentimes be turned around while on the tooth so as to place the hoop out of the way of the operator.

Price ..... \$0.40

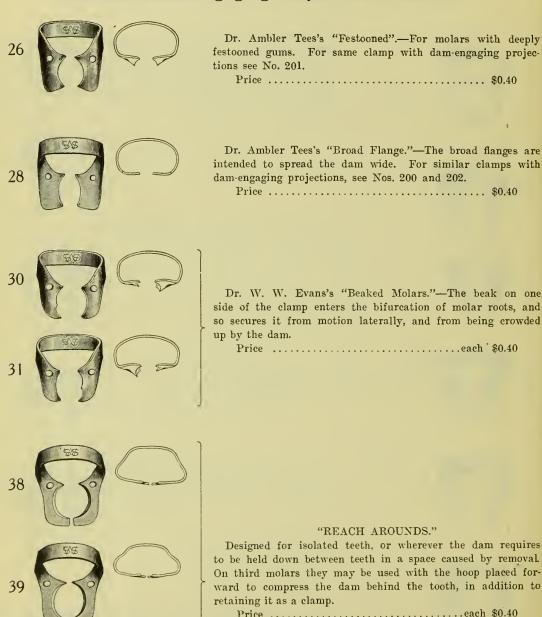


Dr. Delos Palmer's right and left for cavities under the gums on the buccal or lingual surfaces of molars.

Price ......each \$0.40

#### MOLAR CLAMPS

#### Without Dam-engaging Projections-Continued

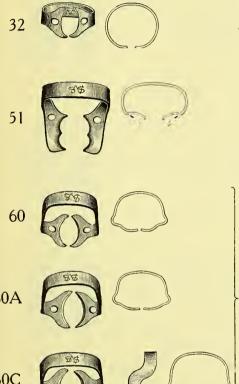


Designed for isolated teeth, or wherever the dam requires to be held down between teeth in a space caused by removal. On third molars they may be used with the hoop placed forward to compress the dam behind the tooth, in addition to

Price .....each \$0.40

#### MOLAR CLAMPS

#### Without Dam-engaging Projections—Continued



Dr. Robert Huey's "Dens Sap."-For very difficult cases to which other clamps are inapplicable.

Price ..... \$0.40

Dr. J. W. Lyder's .- A combination of the Tees's "Festooned" and Evans's "Beaked molar" with beaks on both flanges.

Price ..... \$0.40

Dr. A. P. Southwick's.-An improvement on Dr. Huey's Dens Sap Clamp. The added backset in the hoops allows much freer access for filling. The illustration shows the improved form of No. 60 and the additional sizes 60 A, smaller, and 60 C, larger than No. 60.

Price .....each \$0.40



Dr. E. C. Moore's.-The closeness of adaptation and perfect smoothness of these clamps and their great stiffness permit rigid maintenance in place with very little pain and no injury to the tooth.

Price ..... \$0.60

#### MOLAR CLAMPS

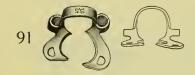
#### Without Dam=engaging Projections-Continued



Seven molar clamps of Dr. Delos Palmer's set of ten, the set providing a special clamp for each molar.

Price ......each \$0.60

First Molar, upper right side.



Second Molar, upper right side.



First Molar, upper left side.



First Molar, lower right side.



Second Molar, lower right side.



First Molar, lower left side.



Second Molar, lower left side.



#### MOLAR CLAMPS RIGHT AND LEFT.

Designed by Dr. G. V. Black for use on third molars which are particularly difficult and on buccal cavities extending below the gingival line in molars.

The rubber dam can be placed over the loop of these clamps by the sense of touch without requiring the help of the eye and is water tight in nearly every instance.

Price ......each \$0.50

18/8/

#### MOLAR CLAMPS

#### With Dam-engaging Projections



Universal Lower Molar.—Generally similar to Dr. Ambler Tees's "Broad Flange" No. 28 but provided with dam-engaging projections.

Price ..... \$0.60



Universal Upper Molar.—Similar to No. 200 but with festooned jaws. Same as Dr. Ambler Tees's "Festooned" No. 26 but provided with dam-engaging projections.

Price ..... \$0.60



·Large Lower Molar Clamp.—Similar to No. 200 but larger

Price ..... \$0.60



Right Lower Molar Clamp for all small molar teeth and children's first molar. Extremely low hoop.

Price ..... \$0.60



Same as No. 203 but for Left Lower Molar.

Price ..... \$0.60



Upper Molar Clamp with exceedingly stiff spring.

Price ..... \$0.60

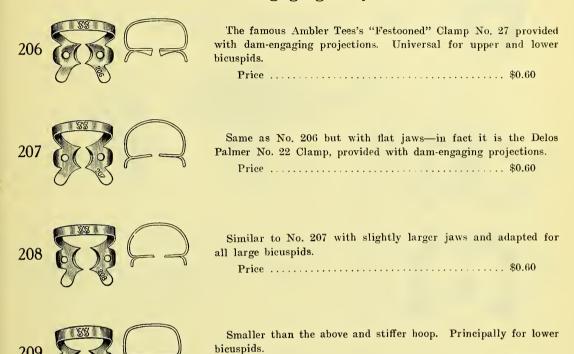
#### BICUSPID CLAMPS

#### Without Dam-engaging Projections

| 2   |        | Two of Dr. Chas. F. Allan's original set of twelve. The first rubber-dam clamps offered the profession and still very popular.   |
|-----|--------|--|
| 3   | 505    | Plain jaws. Priceeach \$0.40   |
| 9   | \$45 C | Same as No. 3 but with serrated jaws.  Price   |
| 22  |        | Dr. Delos Palmer.—Universal for upper and lower bicuspids. Flat jaws. For same clamp with dam-engaging projections see No. 207.  Price \$0.40  |
| 27  | \$\$ C | Dr. Ambler Tees's "Festooned" Clamp.—Undoubtedly the most generally used clamp during a period of thirty years. Its popularity has never been lessened by newer clamps. Same as No. 22 but with festooned jaws. For same clamp with dam-engaging projections see No. 206.  Price |
| 29  | 28     | Dr. Ambler Tees's "Broad-flange" Clamp.—Another very popular pattern which has been in use many years. The broad flanges spread the dam.  Price  |
| 45  | AR CO  | The "Reach-around" Clamp.—Designed for isolated teeth, or wherever the dam requires to be held down between teeth in a space caused by removal. The long, backset enables the Clamp to nicely hold the dam out of the way of the operator.  Price                                |
| 104 |        |  |
| 105 |        | Three Bicuspid Clamps of Dr. Delos Palmer's set of ten A very useful set of Clamps.  Priceeach \$0.60  |
| 113 |        |  |

#### **BICUSPID CLAMPS**

#### With Dam-engaging Projections



Price ...... \$0.60

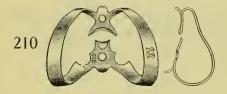
# RUBBER=DAM CLAMPS—Continued INCISOR CLAMPS

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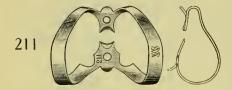
| Dr. | Delos | 3 | Pa | ılı | ne | er | <br>_ | F | 01 | r | 1 | a | te | r | a l | l | a | n | d | C | e | n | tr | a | l | i | n | ci | is | 01 | rs. |       |
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#### LABIAL CLAMPS



Useful on central and cuspids and also in some cases on bicuspids.

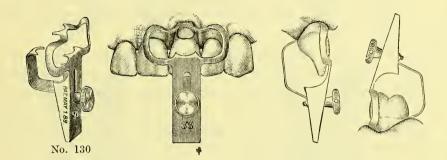
Price ...... \$0.75



# RUBBER=DAM CLAMPS—Continued CERVIX CLAMPS

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#### Dr. How's Cervix Screw Clamp

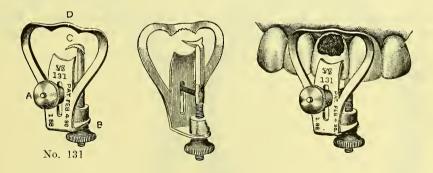


The use of the Cervix Clamp in holding back the gum from cavities in the tooth neck is made plain by the illustrations. It has firm screw adjustment to any of the upper or lower front teeth, including bicuspids.

The Clamp is shown in position on an upper central and a lower bicuspid, with cavities extending far beyond the normal gum-margin.

Price \$2.25

#### The Johnson Improved Cervix Clamp



The Johnson Cervix Clamp is applied by first turning the nut B back to near the end of its screw, then by pushing against that screw-end with the thumb of the left hand hold the claw C against the gum at the palatal neck of the tooth, and by turning the nut A with the thumb and finger adjust the Clamp on the tooth. Then with the nut B push the jaw D quite beyond the cervical cavity, and with A finally fix the Clamp securely in place. One of the illustrations shows the Clamp in place on an upper central incisor. By securing the clamp on the tooth before applying the rubber dam, the adjustment will be facilitated.

## FORCEPS FOR APPLYING RUBBER=DAM CLAMPS AND RUBBER DAM

We manufacture two Rubber-dam-clamp Applying Forceps, the Bowman-Allen and the F. A. Brewer Universal, illustrated on the opposite page.

The Bowman-Allen is designed for expanding the clamp by grasping it by its bow or hoop, the jaws being formed with depressions A for this purpose, many dentists preferring to apply the clamp in this manner.

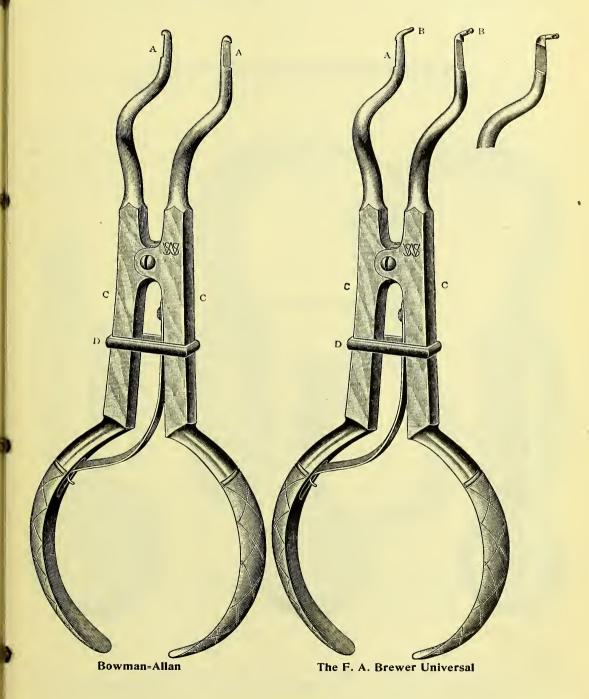
The F. A. Brewer Universal is especially designed for spreading the clamp by means of perforations in the jaws of the clamp, the beaks of the forceps being provided with knobs B adapted to enter the perforations. These forceps, however, may grasp the clamp by way of its hoop, for like the Bowman-Allen, its jaws are formed with the depressions A.

The importance of a properly designed and constructed appliance for expanding and applying Rubber-dam Clamps, must not be overlooked. With unevenly working expanders annoying breakages of clamps are liable. With our properly made expanders breakage is reduced to a minimum.

Requisites for a first-class expander are smooth-working joints, a nicely calculated spring, and a ring which is almost automatic in its smooth action. With such an appliance and with such only, can the manipulation of clamps be easily, surely and safely effected. So far as we know, these nice points are not found in other makes of expanders. The surfaces CC must be of peculiar formation and properly disposed relatively to each other to enable the ring D to properly perform its very important function of holding the jaws expanded in any desired position. So exactly and carefully are our forceps made in this particular, that the action of the ring is really automatic, it only being necessary to hold the forceps up when spreading a clamp to cause the ring to fall into locking position, and to hold them down when it is desired to unlock them. This action is so easy and automatic that one soon forgets there is a ring.

Our Clamp-applying Forceps, although imitated, have never been equaled. Look for the trade-\mathbb{W}-mark.

#### RUBBER-DAM-CLAMP APPLYING FORCEPS



| Bowman-Allan     | \$2.25 |
|------------------|--------|
| Brewer Universal | 2.75   |

#### RUBBER=DAM APPLIER

Dr. Forbes's



Perhaps more properly called a ligature applier, since it is always used in connection with ligatures even in adjusting the rubber dam. The silk is placed in the notches of the fork-ends, and both strands turned around the stud to draw the silk taut, which, with the strands held on the handle, can then be readily forced between the teeth. Especially useful in molars whose approximal surfaces are closely in contact, and in placing the rubber dam by the aid of the stretched ligature.

#### RUBBER-DAM WEIGHTS



Highly polished and nickeled.





The three weights above illustrated have taken the place of the larger variety heretofore offered. They are attractive in design, being best adapted for the purpose, and are each provided with a most effective and easily manipulated clip. The assortment of sizes and weights should meet all needs.

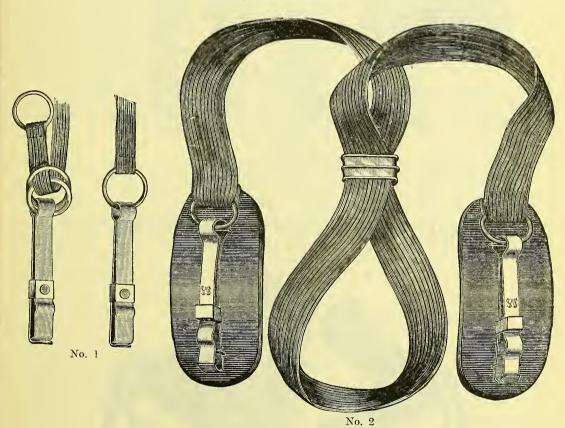
Price, either size .....

#### RUBBER-DAM HOLDERS

We offer five Rubber-dam Holders, the Cogswell, Nos. 1 and 2, the Novel, Nos. 4 and 5, and the Carmichael No. 6.

### THE COGSWELL RUBBER-DAM HOLDERS Nos. 1 and 2

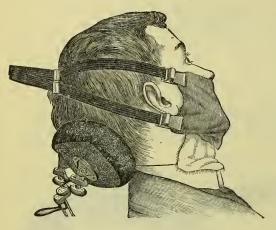
Design of Dr. Cogswell



In Nos. 1 and 2 Rubber-dam Holders the dam is gripped by spring clasps. No. 1 is plain, while No. 2 has guards of horn or ivory for the clasps. In No. 1 the band is held firmly by friction between the double rings at the clasp on one side; in No. 2 a sliding ring performs this office.

| No.  | 1.    | Plain, | , Narrow  | Cotto   | n Gum         | Braid          |             |               |        |  | \$0.60 |
|------|-------|--------|-----------|---------|---------------|----------------|-------------|---------------|--------|--|--------|
|      | 2.    | Horn   | Guards,   | Wide    | Cotton        | Gum            | Braid.      | with          | Slide  |  | 1.00   |
| ••   | 2.    |        | 66        | 66      | Silk          | 1.6            | 66          | 66            | 64     |  | 1.10   |
| 66   | 2.    | Ivory  | "         | "       | "             | "              | "           | 44            | 46     |  | 1.10   |
| Mos  |       | C      | D: 3 . c. | 3.7     |               |                |             |               |        |  | 1.50   |
| Iva  | TOW   | Gum    | Braid 10  | r No.   | 1 Holde       | r (22-         | inch le     | $_{ m ngths}$ |        | per length                             | .10    |
| W10  | 1e    | ••     | " Co      | tton f  | or No. 5      | 2. 4. 5        | or 6        | Holde         | r (22. | inch longthal                          |        |
| ٤٠   |       | 66     | " ~       |         | <b>37</b> 0   | -, -, ·        | , 01 0      | Holac         | 1 (22  | men lengths)                           | .10    |
|      |       |        | 51.       | ık, ior | No. 2,        | <b>4, 5,</b> 0 | or 6        |               |        | ······································ | .20    |
| Slic | les f | or Hol | lder No.  | 2       |               |                |             |               |        | ····each                               |        |
|      |       |        |           |         | • • • • • • • |                | • • • • • • | • • • • •     |        | ·····each                              | .12    |

#### NOVEL RUBBER-DAM HOLDER Nos. 4 and 5 (DUPLEX)



The Novel Rubber-dam Holder No. 4 consists of a band of rubber braid passing around the head, with a spring clip at either end to grasp the rubber dam. A slide through which the band passes at the back of the head affords the means for securing the appliance in place. The clips have wide tongues, so that they hold the dam firmly without liability to twist out of position. The precise amount of traction to apply is readily controlled by the elasticity of the controlled by the elasticity of the controlled by the controlled ticity of the bands. Having a single band, it grips the rubber dam at one point only on each side of the face and rubber-dam weights will have to be used to hold the dam in place below the mouth. The No. 5, commonly called the Duplex Rubber-

dam Holder, has two bands with a double slide, so that while each band may be manipulated without disturbing the other, the two are connected by the slide. This device is preferable because there are four attachments and the traction is centered at ene point at the back of the head. It holds the rubber dam in place immovably, and there is no tendency on the part of the band to slip. After the clips are attached the bands can be manipulated to pull the rubber dam amountable and the rubber dam amountable at the clips are attached the bands can be manipulated

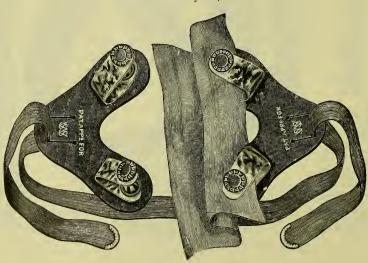
to pull the rubber dam smoothly out of the way of the operator. A napkin laid over the lower teeth before the application of the dam, and allowed to extend down around the chin, will be so compressed by the drawing of the dam as to prevent the flow of saliva under the rubber and its disagreeable contact with the chin. The No. 5 also dispenses with the use of weights.

#### PRICES

| No. | . 4, | Two  | Clips, | Wide | Cotton | Gum | Braid | with Slide  |       | \$0.65 |
|-----|------|------|--------|------|--------|-----|-------|-------------|-------|--------|
| 66  | 5,   | Four | 66     | with | 66     | 66  | "     | an l Double | Slide | 1.25   |

#### THE CARMICHAEL RUBBER-DAM HOLDER No. 6

Patented July 18, 1899



This Holder holds the rubber securely, smoothly, and safely; that is without pulling the rubber to cause leakage around the tooth. The pressure of the lip or cheek is restrained and the rubber held out of the way by drawing the long ends of the ligatures behind and under the metal springs.

The elastic band is readily caught or released for adjustment, and the rubber may cover the nose for breath protection. In fact, every reasonable requirement of both the dentist and the patient appears to be fully met by this ingenious, expeditious, and satisfactory device. It is made of thin, polished, black vulcanite, and has glove-snap buttons with nickel-plated springs.

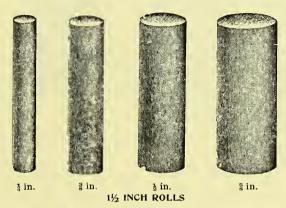
#### 88

THE S.S. WHITE

#### ABSORBENTS

The uses of absorbents in dentistry are many, various and important. In many minor operations they relieve the dentist from the necessity of applying the rubber dam, saving him time and annoyance and pain to the patient. Our offering includes Cotton Rolls, Cotton in bulk, Napkins, Fiber l.int, Bibulous Paper, and Spunk. All are useful and our stock is always of the best quality.

#### ABSORBENT COTTON ROLLS



The absorbent capacity of these Rolls is equal to that of the finest loose cotton, they can be utilized wherever the loose cotton can be and at least as conveniently, and they have certain advantages in the handling. The two lengths and four diameters of rolls, and the facility with which they can be cut,—cleanly and sharply,—into any desired size or shape, give them an almost unlimited range of usefulness, wherever an absorbent is required.

This form of Absorbent Cotton is especially appreciated in crown and bridge operations; it also advantageously replaces napkins in examinations and in that large class of brief operations where it seems hardly worth while to apply the dam and clamp.

#### ABSORBENT COTTON

Our Absorbent Cotton is clean, pure, long-fiber cotton, made hygroscopic by the extraction of the natural oils. An excellent absorbent,—acts quickly.

Put up in the form of a roll, easily torn apart, yet retaining its form nicely.

Sold in 1-oz, and 2-oz, cartons, and 1-lb. rolls.

| Price | per 1-oz. carton \$ | 0.06 |
|-------|---------------------|------|
| 66    |                     | .10  |
|       | l-lb. rolls         |      |

#### **ASEPTIC DOILIES**

The Aseptic Doily is a little "individual" napkin about 6 inches square, for the dental office, which is thrown away when removed from the patient's mouth. Made of cloth prepared by the special treatment used in finishing aseptic gauze for hospital work.

No lime, acid, or other objectionable material is used in the bleaching. The Doilies are freed from foreign matters and are carefully sterilized before being packed for sale.

The price is so low as to make the use of this Doily cheaper than that of the ordinary forms. Put up in boxes of 50 and 500.

| Per | $\mathbf{box}$ | of | 50  |   | <br> | ٠. | <br> | <br> | <br> | <br> | <br>٠. | ٠. | <br> | <br> | ٠. | <br> | ٠.   | ٠. | <br> | <br> |  | <br> | <br> | <br>\$0 | .20 |  |
|-----|----------------|----|-----|---|------|----|------|------|------|------|--------|----|------|------|----|------|------|----|------|------|--|------|------|---------|-----|--|
| ٤٠  | 66             | 66 | 500 | ) | <br> |    | <br> | <br> |      |      | <br>   |    |      | <br> |    |      | <br> |    |      |      |  | <br> |      | <br>1.  | .50 |  |

#### ABSORBENTS—Continued

#### PARKER'S PAPER FIBER LINT

is the pure live fiber, with all the resinous, oily, and acid matters effectually gotten rid of. Superior in absorbent power. Pure white in color, making it useful in preparing cavities. Can be cut to any shape, and the edges are clean and sharp when cut. Sample on application.

#### JAPANESE BIBULOUS PAPER

Our Japanese Bibulous Paper is specially selected for our sales by an experienced buyer resident in Japan. His knowledge of the qualities of the paper and of the needs of our patrons guarantees that that which we sell is the best to be had, with abundance of body and absorbing power.

Size of sheets, about  $10\frac{1}{2} \times 14\frac{1}{2}$  inches.

#### FRENCH BIBULOUS PAPER

Our French Bibulous Paper is imported specially for our own sales. The French variety has not the soft, velvety finish found in the Japanese, but it has great capacity as an absorbent, and it acts rapidly. It is liked by many dentists.

Size of sheets, about 14 x 19 inches.

#### **SPUNK**

#### AS AN ABSORBENT

Before the days when the method of preparing cotton so that it would drink up water was discovered, Spunk was the main reliance of the dentist for keeping cavities dry. It is still largely used for that purpose. The Spunk which we offer is always of high quality; we take special pains when buying to get none but good.

#### AS A GOLD HOLDER

Selected large pieces of Spunk have long been in popular vogue for holding prepared gold ready to the operator's hand. Its color is in strong contrast to the gold, and it has a springy surface, which permits the picking up of pellets, cylinders, etc., without risk of flattening or condensing them.

Price, Selected Spunk ......per oz. \$0.75

#### COTTONOID

Cottonoid is a preparation of the most perfect absorbent cotton, much resembling the well-known Fiber Lint in appearance. It is very useful in any way desired as a dental absorbent, as it can be cut to any size. Sold in sheets 12 inches long by  $3\frac{1}{2}$  inches wide, and put up in  $\frac{1}{4}$ -lb. packages. This quantity will make 200 napkins of convenient size for use in the mouth.

### THE S. S. WHITE DENTAL MFG. CO.'S FLOSS SILK

#### PLAIN AND WAXED









Nickeled Box with Cutter

6 yds., Waxed

12 and 24 yds., Plain

Box for 12 and 24 yds., Waxed

Make sure in buying Floss Silk that our name, "The S. S. White Dental Mfg. Co.," is on the label, because that name is the sign for the best quality silk. Our Floss is tough and strong, thin and even in texture,—free from knots,—pure and clean and dependable. These excellences are more manifest in the Waxed than in the Plain, because the perfect waxing accentuates them."

#### Nickeled Box with Cutter, with 12-yd. Spool of Waxed Floss

Sightly, clean, convenient, the Nickeled Box shown above keeps the Floss free from dust and dirt,—a worthy companion to the best Floss Silk on the market. It also makes the Floss handy to use. You pull out the strand, pass it behind the cutter, give it a slight jerk in the direction of the aperture, snipping it off cleanly with the severed end of the clew held safely.

Nickel plated all over, with screw cap.

Only sold filled with 12-yard spool of our Waxed Floss Silk.

#### PRICES

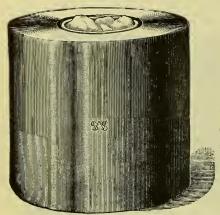
| ** **  | 66                          |        |        |    |            |       |      |        | <br>    | <br>"   | doz.  | .75  |
|--------|-----------------------------|--------|--------|----|------------|-------|------|--------|---------|---------|-------|------|
| 12-yd. | Spools,                     | Waxed, | each   | in | pasteboard | box   |      |        | <br>    | <br>per | spool | .10  |
| ** **  | 4.6                         | 16     | "      | 66 | "          | 66    |      |        | <br>    | <br>"   | doz.  | 1.00 |
| 24-yd. | Spools,                     | Waxed, | each   | in | pasteboard | box   |      |        | <br>    | <br>per | spool | .17  |
| 46 46  | "                           | .6     | 66     | 66 | - "        | "     |      |        | <br>    | <br>    | doz.  | 1.75 |
| 150-ye | <ol> <li>Spools,</li> </ol> | Waxed  | , each | in | pasteboard | box   |      |        | <br>    | <br>per | spool | .90  |
| " "    | "                           | 4.6    | 6.     |    |            | ٤.    |      |        | <br>    | <br>    | doz.  | 9.15 |
|        |                             |        |        |    |            |       |      |        |         |         |       | .05  |
| 66 66  | - "                         | "      |        |    |            |       |      |        | <br>    | <br>    | doz.  | .50  |
| 12-yd. | Spools,                     | Waxed, | each   | in | Nickeled I | Box v | with | Cutter | <br>. , | <br>per | spool | .12  |
| .6 66  | 46                          | "      |        | 66 | *6         |       | "    | "      | <br>    | <br>    | doz.  | 1.25 |
|        |                             |        |        |    |            |       |      |        |         |         |       |      |

#### GILLING TWINE

Adapted for ligatures for correcting irregularities; for holding rubber dam in position; also, for passing between teeth to discover imperfections in the enamel, and for cleaning and polishing. Three sizes: coarse, medium, and fine.

#### COTTON HOLDER No. 1

Pattern Furnished by Dr. E. METHOT



Compact, simple and effective. Made of brass, \$\frac{1}{8}\$ inch thick, giving all the weight necessary for holding it firmly in position without loading the base. The cotton is forced up against the opening by a spring soldered to two heavy brass disks, one of which forms the bottom of the Holder, and the other the plate on which the cotton rests. The cotton is thus firmly pressed against the orifice, and is held ready for use at any time.

Price ..... \$0.70

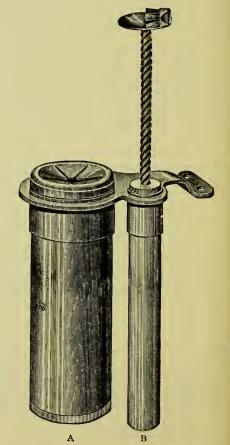
#### The ROBERTS COTTON=PELLET ROLLER and WASTE= COTTON HOLDER No. 5

The Roberts Roller makes cotton pellets quickly and cleanly, any size you want, and makes them neither too dense nor too loose, and all without touching the cotton with the fingers. You pick up the wisp of cotton with the pliers, carry it to the disk of the Roller (B), press the disk down to the cylinder, and lift off the pellet perfectly made.

Combining the roller with Waste-cotton Holder No. 5 as a receiver for the soiled pellets you have an ideal appliance for making and disposing of cotton pellets. Holder No. 5 is a cylindrical glass cup inclosed in a nickel-plated case with a star-shaped opening in the top. It is held by the same bracket which supports the Roller. The cup is readily removed and cleansed. A disinfectant placed in it will effectually prevent odor from the used pellets, which are scraped off the pliers through the star-shaped opening.

Pellet Roller sold separately or combined with the Wastecotton Holder, as illustrated. The combination outfit is a labor-saving attachment to the bracket table.

| Roberts Cotton Pellet Roller (B)              | \$1.00 |
|---|--------|
| Waste-cotton Holder No. 5 (A)                 | 1.75   |
| Roberts Cotton Pellet Roller and Waste-cotton |        |
| Holder  | 2.75   |



#### HORTON DENTAL APRON OR BIB

Designed by R. Horton, D.D.S.



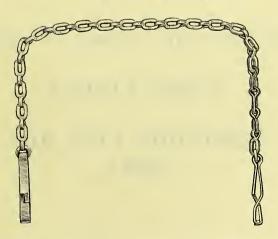
The form of the Bib is plainly shown in the illustration. It is easily applied and readily removed. By its use the clothing is fairly protected, and soiled dresses and shirt fronts avoided.

Where there is a copious flow of saliva this Bib becomes a necessity. It is so shaped as to catch and retain all overflow. The Bib is readily attached by passing the tape over the head and tying. Made of checkered rubber cloth, mounted on a wire frame.

Price \$0.50

#### NAPKIN OR PINAFORE HOLDER

Devised by Dr. Robert Adams, Jr.



Used by placing the chain around the patient's neck and grasping the napkin or pinafore with the two clasps.

The chain is strong, neat, and attractive in appearance, is not liable to become kinked nor to catch the patient's hair.

Being made of metal and nickel plated it can safely be sterilized and will not rust.

# Wedging & Separating Devices

Under this head will be found all our appliances and devices for effecting the temporary separation of the teeth

COMPRISING

Separators

Rubber and Wood Wedges

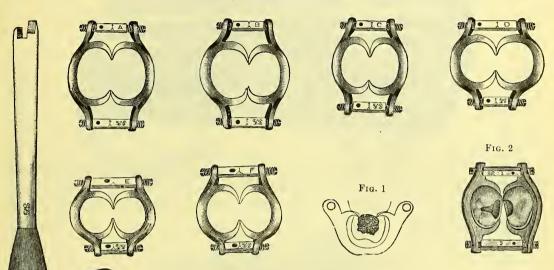
Wedge Cutters

Separating Files and Saws

THE S.S. WHITE

#### PERRY SEPARATORS

Invented by Dr. SAFFORD G. PERRY



The Perry Separators facilitate work on approximal cavities in two ways: They enable the operator to force adjoining teeth apart to secure room for work, with the least possible pain. They force the separated teeth against their neighbors in such wise that the shock of the mallet blows in condensing the gold is distributed over several teeth instead of being spent entirely upon the peridental membrane of the tooth operated upon.

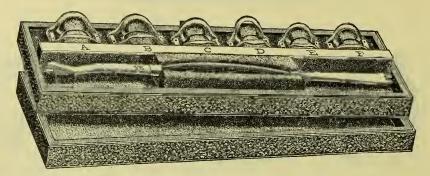
They are effective in operation, because each of them is a special tool adapted to its limited class of cases. They cover the entire range of needs. They are small, obstruct very little light, are convenient in manipulation, and are rapid in adjustment.

Six sizes: A, for separating molars; B, for separating molars from bicuspids; C, for the bicuspids; D, for the front teeth; E, for incisors too small for D; F, for separating the first bicuspid from the cuspid.

The illustrations (Figs. 1 and 2) show the Separator applied. When it tends, as with teeth of narrow necks, to slip toward the gum, wood or guttapercha props should be put on the adjacent teeth under the bows to prevent them from tilting and to keep the points from being forced under the gums while the teeth are being separated. The arrows on the bars show the direction in which to turn them to spread the Separators.

| Perry Separatorseach                | \$3.50 |
|-------------------------------------|--------|
| Large Wrench "                      | 1.25   |
| Small "                             | .50    |
| Set of 6 in Case, with large Wrench | 24.00  |

#### CASE FOR PERRY SEPARATORS

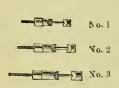


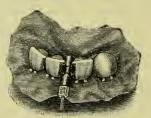
This neat Case for the Perry Separators contains blocks fitted to the individual Separators and to the Key. The blocks for the Separators are lettered to correspond with them, so that the dentist can always be sure of picking up the form desired. The Separators are sold with or without the Case. Those who have the set can purchase the Case separately. Covered with morocco, and lined with velvet.

Price, Case separately \$2.00

#### LITTLE GIANT SEPARATOR

Design Patent June 28, 1898





The principal advantages of this Separator are its small size and its simplicity. It occupies but little room, obstructs no light, doesn't get in the way, and so is not likely to be accidentally thrown out of its adjustment.

Its special use is in the immediate

separation of teeth having small approximal cavities, though it can be used effectively wherever there is room to place it.

The device consists of two wedges, one fixed at the end of a shaft, the other loose and controlled by a nut working on a very fine thread on the shaft.

In use the nut and loose wedge are removed, the shaft passed between the teeth to be separated from the lingual or palatal side. The loose wedge is then returned to the shaft, followed by the nut, which is serewed up, foreing the wedges between the teeth till the desired room is gained. The nut is manipulated by a key or wrench, magnetized to enable it to pick the nut up readily. The round recess in the wrench is for handling the small, loose wedge of No. 1.

Three sizes: No. 1 for use between incisors, Nos. 2 and 3 for bicuspids and molars. They may also be used as matrix holders. In matrix operations the Separator may often be applied without removing wedge or nut.

| Set complete                           | \$3.75 |
|--|--------|
| Separately, No. 1, No. 2, or No. 3each |        |
| Wrench                                 | 4.0    |

FIG. 5

#### THE GENERAL SEPARATOR

Patented January 16, 1894





Without Stops

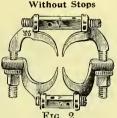


Fig. 3

The jaws of this Separator are adjustable lengthwise and sidewise, giving them an "open" by which they can be adapted to large or small teeth, so that the device has universal application. Each jaw is in two parts, connected by screw bolts in such wise that the buccal and labial beaks are separable from the palatal and lingual, and from each other.

This construction affords decided advantages in making separations, especially when the cavity walls are thin. The device is convenient in manipulation, rapid in adjustment, and affords easy access to the cavity with the minimum obstruction of light. The teeth are quickly forced apart with the least possible pain, and held against their neighbors in such wise that the peridental membrane of several teeth sustains the shock of the mallet blows.

Sold with and without stops, which can be placed upon the teeth separated or swung around upon those contiguous, to prevent the beaks rocking or slipping up the root

against the gum. They can often be dispensed with.

Fig. 1 is a plan view, with stops; Fig. 2, without stops. Fig. 3 shows it applied to separate a cuspid and bicuspid with the stops on contiguous teeth. The flexible wrench (Fig. 4) is to turn the stops C C (Fig. 3) down to rest upon the teeth. To screw them hard down, the square hole in the flattened end of the wrench should be used. Fig. 5 shows the wrench for manipulating the bars and the nuts on the screw bolts for opening and closing the separating beaks.

| General  | Separator, complete with Stops and Two Wrenches | 8.00 |
|----------|---|------|
| "        | " with Stops (without Wrenches)                 | 7.00 |
| 44       | " with One Wrench (without stops)               | 7.00 |
| Flexible | Wrench, for Stops                               | .70  |
| Key Wr   | nch, for Screw Bolts                            | .50  |

#### RUBBER STRIPS FOR SEPARATING TEETH



The resilience of rubber makes it most effective in the separation of natural teeth to obtain room for filling operations, etc. The more it is stretched in placing, the thinner it is drawn in proportion to the natural size, the greater will be the separation produced; the tendency to resume its original form is maintained till it has made room enough for that form.

These strips of ours are made in two widths and four thicknesses, affording variety enough to meet all needs. Nos. 1 to 4 are  $\frac{1}{8}$  inch wide; Nos. 5 to 8,  $\frac{3}{16}$  inch wide. Length of all, 3 inches.

Put up in \(^3\)-oz. boxes, each number separate, or assorted. The assorted box contains usually 38 strips, including all sizes.

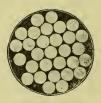
Price .....per box \$0.40

### ORANGEWOOD FOR WEDGING

SUPERIOR QUALITY







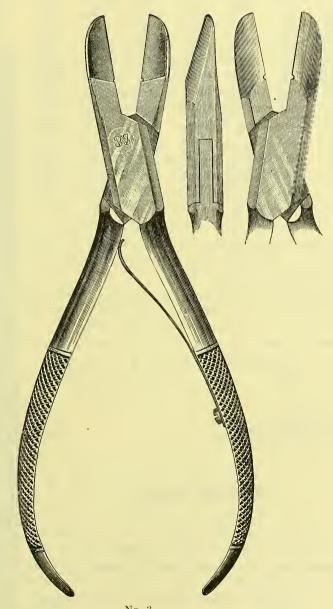
Two sizes, large and small. The diameters are shown in the end views; the length of the pieces is about  $6\frac{1}{4}$  inches. The wood is carefully selected.

## "PURE GUM" TUBING FOR SEPARATING AND REGULATING

| 1/16 i | inch | inner | ${\it diameter}$ | <br> | ٠., | <br> | ٠. | <b>.</b> |      | <br> | <br> | <br> | ٠. | <br> | ٠٠٠١ | per | foot | \$0.04 |
|--------|------|-------|------------------|------|-----|------|----|----------|------|------|------|------|----|------|------|-----|------|--------|
| 1/8    | **   | **    | ••               | <br> |     | <br> |    |          |      | <br> | <br> | <br> |    |      |      | ••  |      | .06    |
| 5/32   | ••   | ••    | **               |      |     | <br> |    |          | <br> | <br> |      |      |    |      |      | ••  |      | .07    |
| 3/16   | **   | **    | ••               | <br> |     | <br> |    |          |      | <br> | <br> | <br> |    | <br> |      |     |      | .10    |

#### WEDGE CUTTER AND WEDGE COMPRESSOR

Design of Dr. Chas. MILLER

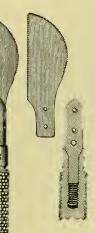


No. 3

In the No. 3 Wedge Cutter the parts between the blades and the joint are made broad and flat, and come together like pliers to compress the wedge before it is inserted. Thus condensed it may be put in without great force or painful driving, and will afterward expand so as to be very effective.

Price each \$3.50





#### SEPARATING SAW AND HOLDER

Pattern furnished by Dr. Gordon White

The special use of this Separating Saw is in the making of separations between the teeth preparatory to the use of disk or strip. In this preparatory work it facilitates the most delicate manipulation and is without liability to cut the lips or soft parts.

The Saw is unique in form, having one straight and one curved (convex) edge. The shank has two perforations for the reception of pins in the Holder.

The Holder is a split chuck, with stem threaded to fit our Cone-socket Handles. The inside of one jaw of

the chuck is armed with two studs or pins fitting the perforations in the Saw shank. The Saw shank is slipped into the chuck with the perforations over the pins, and the Conesocket Handle is screwed on, closing the jaws and locking the Saw immovably in the Holder.

So assembled we have a Separating Saw which is extremely convenient, because the relative shortness of the blade as compared with the handle gives perfect control of its movement.

Cone-socket Handles Nos. 3, 5, 8, and 10 A are best adapted for carrying this Separating Saw.

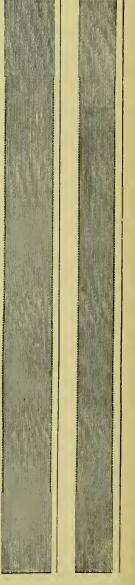
| Price, | complete                    | \$0.75 |
|--------|-----------------------------|--------|
| "      | Sawseach                    | .25    |
| "      | Holders "                   | .35    |
| 66     | Cone-socket Handles (No. 3) | .15    |

#### RIBBON SAWS

For separating natural teeth and for cutting apart approximal fillings, when the circumstances make it easier to bridge over from one tooth to the other during the operation, with the idea of separating them when the operation is completed. The saws are very flexible and quite thin. Cut on both edges. Two widths, 3 and 1 inch, and two thicknesses, which we designate thin and medium.

| Price |  |  |  | each | \$0.10 |
|-------|--|--|--|------|--------|
|-------|--|--|--|------|--------|

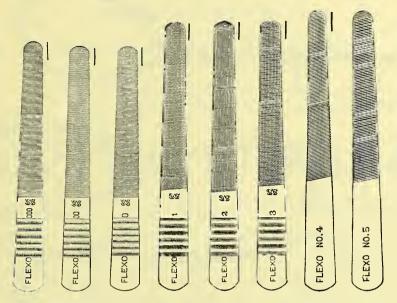
#### Ribbon Saws



Trade-Mark
"FLEXO" SEPARATING FILES

Reg. in U. S. Pat. Off.

THE S.S. WHITE



The "Flexo" Separating Files can be bent, a little at a time, between thumb and fingers, to adapt them to the contour of the tooth operated upon.

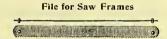
All of the "Flexo" Separating Files are cut on both edges and one side, the other side being smooth or "safe."

Nos. 000 to 3 have crimped finger holds; in Nos. 4 and 5, the two coarser cuts, the hold is smooth. Sold separately by number, or in assorted dozens.

#### "FLEXO" SAWS AND FILES

For Saw Frames Nos 1 to 5 and Wilson's

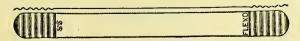
Saw for Saw Frames



The "Flexo" Saws for Saw Frames are made in two styles, toothed on one edge and on both edges; the Files for same use are cut on one side and one edge. Can be used in any of our Saw Frames.

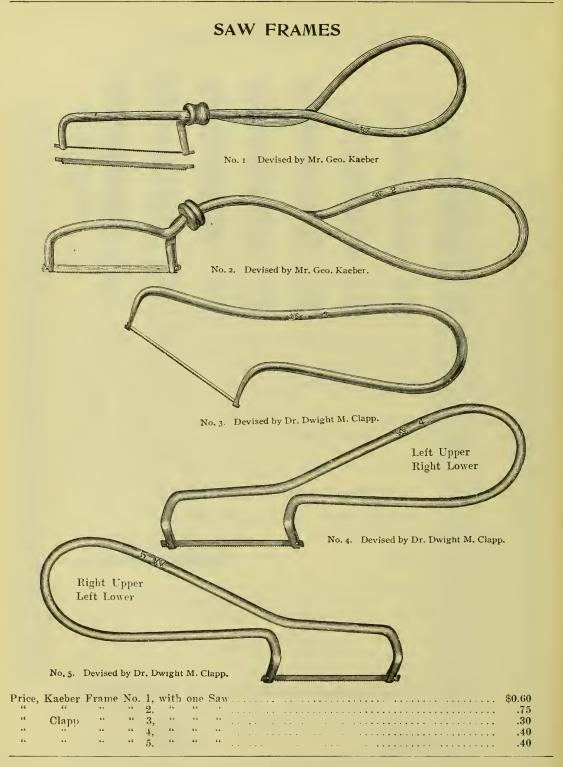
Price, Saws for Saw Frame, cut on one edge......per doz. \$0.25

#### "FLEXO" SEPARATING SAW FOR HAND USE



This Saw is of the same thickness as the No. 000 Separating File, from which it differs only in being cut on the edges with both sides safe, and in having a crimped finger hold at each end. Very fine and thin, as shown.





#### KAEBER SAWS

| For Saw Frames Nos. 1 to 5 and W | Wilson's | and | 5 | to | los. | Frames | Saw | For |
|----------------------------------|----------|-----|---|----|------|--------|-----|-----|
|----------------------------------|----------|-----|---|----|------|--------|-----|-----|

| Price, | cut | on | one  | edge |     | <br> | <br> | <br> | <br> | <br> | <br><b></b> | <br> | <br> | per | doz. | \$0.25 |
|--------|-----|----|------|------|-----|------|------|------|------|------|-------------|------|------|-----|------|--------|
| 66     | 66  | 66 | both | edge | s . | <br> | <br> | <br> | <br> | <br> | <br>        | <br> | <br> |     | 66   | .38    |

# An Assortment of Appliances and Materials

1818

THE S.S. WHITE

Especially Designed for the use of the

# **ORTHODONTIST**

(Hitherto Usually Called Regulating Appliances)

Orthodontia within a comparatively few years, owing largely to the activities of such men as Angle, Case, Jackson, Knapp, and a few others, has become the most important if not the only real specialty in the dental profession. It is certainly the most exacting branch of the dentist's work, requiring the ripest judgment, the most assiduous study and untiring attention to insure success.

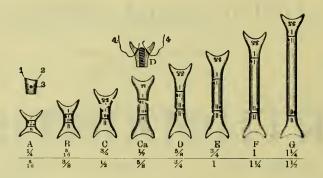
At the same time it is one of the most fascinating of the professions and gratifying in its practice. The patients who seek the services of the orthodontist are more nearly ideal than those seeking dental aid in any other branch. They are almost always in the flower of youth and usually belong to the class of the affluent and cultured. The results to be achieved are such as to gain the most flattering appreciation of patients and their friends.

The appliances shown on following pages will, we believe, afford every necessary means for treating cases of malocclusion or irregularity.

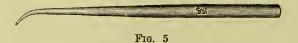
Dr. Angle's Orthodontic Appliances
Dr. Knapp's Orthodontic Appliances
Miscellaneous Appliances
Pliers
Blowpipes
Solders
Etc.

#### **JACKSCREWS**

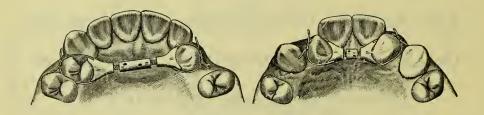
#### Dr. A. McCollom's Pattern



Each Jackscrew length closed is indicated above the line in fractions of an inch; the open length is found below the line.



The illustrations show the sizes and lengths when closed. The A, B, C heads vary in shortness, but the D head is long and is used on the E, F, and G bars. Substituting a D head for one of those on the C bar makes the ½-inch closed Jackscrew Ca. One side of each head is longer (as at 1) than the other side (see 2), in order that the long or short side may go next to the gum according as the tooth may incline forward or back. The ligature holes (see 3) pass through the sides so that the ligature (see 4 in the section view of a D Head) will draw the Head directly upon the tooth as shown in the two illustrations of the applied Jackscrews.



Each right-hand Bar Screw has a mark (1) to show that it will screw into a right-hand Head on which is a like mark (1). Each left-hand Bar Screw and Head has two such marks (11), so that no mistake need be made in changing a long Head for a short Head (as D in place of C, for instance). Whatever the space between the teeth, it can be exactly fitted by reason of the interchangeableness of these Heads and Bars.

All are made with perfect screws and are nickel plated all over. Fig. 5 shows a Pin Wrench for operating all the screws.

#### PRICES

| McCollom Jackscrews, A to Geac         | h \$1.50 |
|--|----------|
| Heads or Bars for Jackscrews, A to G " | .50      |
| Jackserew Pin Wrench (Fig. 5)          | .20      |

#### HOLMES SPRING JACKSCREWS

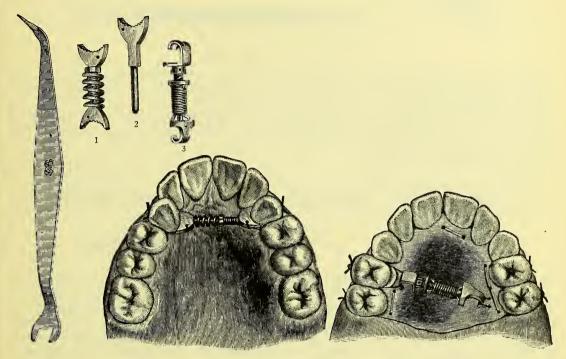


Fig. A

Fig. B

These devices of Dr. T. Stanton Holmes combine the screw and spring methods of moving teeth for orthodontic purposes. Fig. A shows the pushing action of the No. 1 style, which is to be operated by the nut-fitting end of the wrench; and Fig. B shows the pulling action of No. 3, the swiveled screw head of which may be turned by the pointed end of the wrench. In both instances the turning of the screw causes a forceful action to the extent only of the screw thrust, and so avoids the common danger of spring action, which, if neglected, may carry the tooth too far. No. 2 Jack is made by the substitution of a long Head (No. 2) for the short Head of No. 1.

#### PRICES

| The Set, complete                             | \$5.00 |
|---|--------|
| Pushing-spring Jackscrew (Short or Long Head) | 1.75   |
| Extra Headseach                               | .50    |
| Pulling-spring Jackscrew No. 3                | 2.50   |
| Wrench  | .25    |

## DR. F. H. LEE'S IMPROVED REGULATING SCREW AND PULLBACK





This device for drawing into alignment teeth erupted outside of the arch consists of a screw bolt, threaded to fit the eye of the metal post anchorage, and provided with a nut and loose crosshead. The crosshead is perforated at each end for the attachment of ligatures.

It is operated by entering the screw bolt into the post, attaching ligatures passed around the tooth to the crosshead and applying tension by turning the screw bolt or the nut, as may be, with the key wrench. In many cases the nut can be dispensed with.

Price, including Key Wrench \$2.00

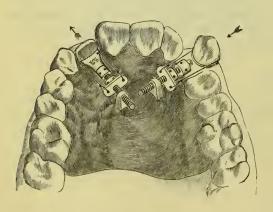
#### LEE-BENNETT JACKSCREW FOR MOVING TEETH





This appliance is exactly like the Improved Regulating Screw of Dr. Lee's, except that the squared extremity of the head is substituted by a swiveling McCollom Jackscrew head (suggested by Dr. G. W. Bennett), and the operating key wrench has no socket. The modification simply reverses the function of the device, enabling the operator to push a tooth erupted inside of the arch out to its proper position, with the same positive, certainly controlled power. In operation, the jackscrew head is placed against the tooth to be moved, which is also ligatured to the crosshead for greater security, and tension applied by turning both screw bolt and loose nut.

## POSITIVE ACTION WITH PLATE AND POST ANCHORAGE USING THE LEE, AND THE LEE-BENNETT JACKSCREWS



With the two devices here shown,—one the complement of the other,—teeth which have erupted outside or inside of the arch may be readily brought into alignment without risk of disturbing the other teeth. They are especially effective with obstinate teeth, as the long-rooted canines, because of their independent anchorage and positive action.

Their anchorage is a metal post, split at the base to afford stability, and vulcanized into a plate fitting the palato-cervical borders of all the teeth except those to be moved. The plate, which is ligatured in place, maintains these in position, the anchorage, as a whole relieving them of all direct stress and concentrating the force upon the tooth to be brought into alignment. The free end of the

post has an eye which is threaded to receive the screw bolt of the appliance proper. The devices can be used separately or on occasion both can be anchored in the same plate and utilized to push one tooth out and pull another in at one time.

#### DR. EDWARD H. ANGLE'S ORTHODONTIC AND RETAINING APPLIANCES

Patented July 17, 1894; June 6, 1899; July 16, 1901 (Nos. 678,452 and 678,453); March 3, 1903 A complete system of appliances to meet all practical requirements in orthodontic operations. Thousands of cases in all parts of the world attest their practical universality of application and usefulness.

Made of fine quality nickel silver, beautifully finished and triple gold plated, except the Traction Bar, the Wrenches, the Band Driver, and the metal parts of the Head gear, which are nickel plated.

#### **Expansion Arches**

The Expansion Arch is the most universally applicable of all orthodontic appliances. It is used in practically all cases of Class I (see Angle's "Treatment of Malocclusion of the Teeth," seventh edition), which includes about seven-tenths of all cases. Its latest use by Dr. Angle, in combination with Anchor Bands D and Sheath Hooks, in applying the Baker anchorage,—by which force is reciprocated from one jaw to the other through small rubber ligatures,—brings Class II and Class III under its domination. In this procedure the first molars of the opposite jaws are first moved mesially and distally

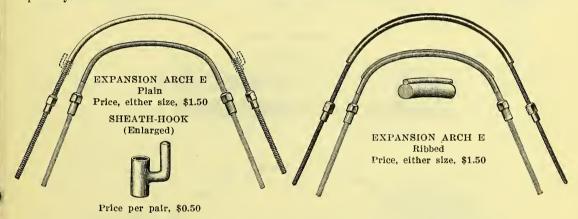
into normal occlusion, when the remaining teeth follow easily and naturally.

Expansion Arches E made in two sizes are for general use. The nuts have an extension or friction sleeve, which closely engages the sheaths upon the "D" and "X" bands, preventing the loosening of the nut by the lips or cheeks, and giving a longer bearing and consequently greater strength.

In the ribbed form the rib or flange is to be notched with a thin diamond disk or separating file

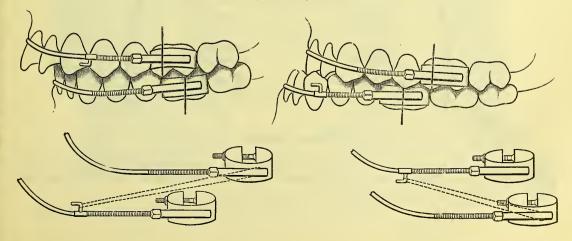
to prevent the slipping of wire ligatures.

The Sheath Hooks for the attachment of rubber ligatures to the Expansion Arches are to be ordered separately.

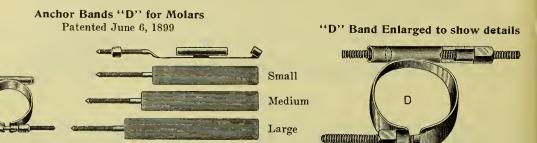


#### Expansion Arch in Movement of First Molars

Copyright February 1903, by EDWARD H. ANGLE



#### ANGLE'S ORTHODONTIC APPLIANCES—Continued



Anchor Band "X" for Bicuspids

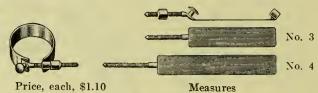
Measures

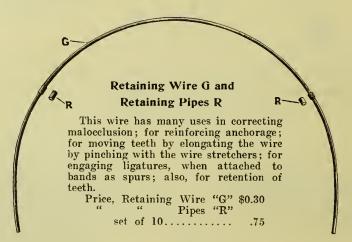
Price, each, \$1.25

#### Plain Adjustable Bands



#### Fracture; Bands





#### **Band Material**

There are three varieties of Band Material, C, F, and H, used to make plain brazed bands that serve as mediums of attachment to the arch. C is used where a thin delicate band is required; F where a stronger band is needed, has a much more extended use. H is wider than F and is used for canine bands.

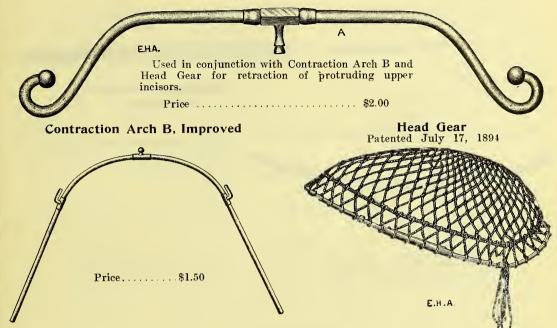
Put up in coils C, 28 inches long, F and H, each 24 inches long.

Price, either style .....per coil \$0.30

## ANGLE'S ORTHODONTIC APPLIANCES—Continued

#### Traction Bar A

THE S.S. WHITE



This Head Gear is beautifully made of silk netting, laced to a metal rim for the even distribution of the force which is exerted by heavy elastic bands. It is strong and non-collapsible, and is adjustable to any size of head, and completely equalizes the pressure by its proper distribution, thus overcoming the evils of localized pressure and increasing the efficiency of the appliance many fold.

Used in conjunction with the Traction Bar and Contraction Arch B for drawing in protruding upper incisors; also to support the Chin Retractor in cases of mesial protrusion of the lower arch. Below are illustrations of these uses.

Price, Head Cap with Heavy Elastic Bands .... 

#### Head Gear in use with Traction **Bar and Contraction Arch**



#### Chin Retractor



Chin Retractor (without Head Gear), each.. \$2.50

The Chin Retractor is made of aluminum, is light, neat, and highly polished. It will suit any case, as it is only necessary that the fit should be approximately accurate.

THE S. S. WHITE DENTAL MFG. CO., Sole Sales Agent

#### ANGLE'S ORTHODONTIC APPLIANCES-Continued

## Improved Jackscrew E and J Traction Screw A and D Patented June 6, 1899; March 5, 1899 Patented June 6, 1899; July 16, 1901 THE THE CONTROL OF THE PARTY OF Price \$1.25 Rotating Lever L The enlarged view shows the application These are spring levers, to be used in rotation of teeth. of the friction sleeve nut to the jackscrew. J denotes the screw and nut, E the sleeve, either long or short. Price ..... \$1.00 Price.....per half doz. \$0.25 Band Driver \$0.20 Wrench Right and Left Double-end Wrench

The latest addition to Dr. Angle's Orthodontic Appliances is a double-end wrench to facilitate the manipulation of nuts on the lingual surfaces of the lower teeth. It can be used on either side with equal effectiveness. Each working end has a double curve, as indicated, so that it reaches over and takes hold of the nut with perfect ease, no matter where located. Its special usefulness is in adjusting D and X bands to lower molars and bicuspids, for which it is almost indispensable.

Nickel plated all over.

#### Rubber Ligatures for Reciprocating Force

The application of reciprocating force from one jaw to the other—the principle which is revolutionizing the correction of malocclusion—requires for its execution rubber ligatures which can be depended upon to be tough and to have plenty of "pull."

The ligatures here offered are extremely tough and very durable. They are specially

made of rubber carefully selected to provide these requisite qualities.

Incidentally they are applicable with all the advantages of their greater strength and durability wherever small rubber ligatures are used. In boxes assorted small and large, or separately small or large.

Price ......per box \$0.25

# ANGLE'S ORTHODONTIC APPLIANCES—Continued APPLIANCES MADE OF PRECIOUS METALS

1818

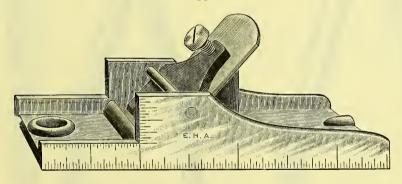
To meet a demand which has arisen for orthodontic appliances made of precious metals we have manufactured and will carry in stock the following. The gold-platinum goods are of pure gold with sufficient platinum added to give them the necessary spring and stiffness for their work:

| Gold-p | latinum | Expansion | Arches | E,  | Plain  |         |   | <br> | <br> | <br> | ٠. | <br> |    | <br>net | \$3.50 |
|--------|---------|-----------|--------|-----|--------|---------|---|------|------|------|----|------|----|---------|--------|
|        |         | - "       |        | E,  | Ribbe  | ed      |   | <br> | <br> | <br> |    | <br> |    | <br>. " | 3.75   |
|        | "       | 66        | "      | Pla | in, S  | mall .  |   | <br> | <br> | <br> |    | <br> | ٠. | <br>    | 3.25   |
| "      | +6      | • •       | 66     | Rib | bed, S | Small.  |   | <br> | <br> | <br> |    | <br> |    | <br>. " | 3.50   |
|        |         | Band Mat  |        |     |        |         |   |      |      |      |    |      |    |         |        |
| Gold-p | latinum | "         |        | 6   | ٠ .    |         |   | <br> | <br> | <br> |    | <br> |    | <br>. " | 2.10   |
| 66     |         | Retaining | Wire . | 022 | in.    | liamete | r | <br> | <br> | <br> |    | <br> |    | <br>    | 1.00   |
| 66     | "       | "         | "      | 030 | 66     | 66      |   | <br> | <br> | <br> |    | <br> |    | <br>. " | 1.50   |
| 66     | 46      | 46        | "      | 038 | 66     | 66      |   | <br> | <br> | <br> |    | <br> |    | <br>. " | 2.00   |

The above being made of precious metals the prices are not subject to cash discounts, nor can they be charged against deposit accounts.

#### DR. EDWARD H. ANGLE'S PLASTER PLANE

Patent applied for



The great value of correct models of cases of malocclusion is well known to all true orthodontists, and when the models are artistically trimmed and proportioned an added attraction is given them which enhances the value of a collection of such models more than it is easy to estimate.

Dr. Angle devised the Plaster Plane as the best instrument possible to assist him in trimming and proportioning his models to the best advantage. It is made of brass, with a steel blade. The accurately scaled try-square combination will be found of great convenience in gaining the desired proportion of the model.

| Price, each | \$ | 1.50 |
|-------------|----|------|
|-------------|----|------|

#### ANGLE'S ORTHODONTIC APPLIANCES—Continued

WIRE-STRETCHING PLIERS

No. 124

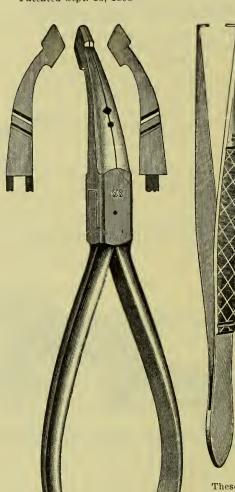
Patented March 19, 1895

BAND-FORMING PLIERS

No. 123

Patented Sept. 13, 1898

BAND-SOLDERING PLIERS No. 125



These Pliers are found especially useful in These Pliers are found especially useful in stretching wires used in moving misplaced teeth without the ald of a jackscrew. Pinching the wire at intervals stretches and strengthens it and increases the force applied. They are adapted to the wire G, but not for stretching hard or large-sized wires.

With a little experience the operator will probably be surprised to see how much can be accomplished with them.

Price ..... \$3.50

The Band-forming Pilers are made especially for pinching or forming the piain bands about the crowns of teeth in orthodontic operations, and about roots in crowning.

The angie of the beaks and plurality of operating edges make them equally adapted to forming the seam upon the iinguai or iabiai surfaces of the teeth in either jaw without requiring a cramped position of the hand.

Between the beaks are square and round grooves for hoiding wire, nuts, etc.

Price ..... \$2.80

These Pliers are for holding bands when soidering.

The pressure is brought to bear evenly and at the exact point required, and away from contact with the soider while in the flame. The angle of the beaks renders them little liable to injury from overheating.

Price .. \$0.70

#### BRASS AND COPPER WIRE (Annealed) FOR LIGATURES IN ORTHODONTIA

In many phases of orthodontic work, wire ligatures are indicated because of their superior toughness

(tensile strength) and indestructibility.

Our Copper and Brass Wires for these uses are carefully annealed, eliminating harshness and leaving the wires tough and flexible, so that they can be closely adapted to any sort of surface and twisted or bent without risk of breakage.

Two sizes, gages approximately Nos. 26 and 28 B. & S. Put up in \(\frac{1}{4}\)-lb. spools, per spool \(\frac{9}{0.35}\).

#### PIANO WIRE FOR ORTHODONTIC OPERATIONS

Piano Wire finds large use in orthodontic operations. In the Coffin Split Plate it is a necessity—nothing else affords the toughness and elasticity which are essential.

The Piano Wire which we sell is of the best quality, having the especial toughness which constitutes the main value of the wire for dental purposes highly developed. Ordinary wires bear no comparison

There are five sizes, Nos. 16, 18, 19, 20, 21, Brown & Sharpe's American Standard Gage. Put up in bundles containing two pieces,  $7\frac{1}{2}$  inches long, of each of the five sizes.

#### "EASY FLOWING" SILVER SOLDER FOR ANGLE'S REGULATING APPLIANCES

To guard against the annoyance of unsatisfactory soldering in attaching parts of Orthodontic Appliances, Dr. Angle recommends the use of this Solder, which he has dubbed "Easy Flowing." This epithet describes one of its features. It flows easily and evenly and cleanly. It is made in our metallurgical department, of pure metals. It is uniform in its working, and has been found by Dr. Angle, after a test of many solders, to be the best adapted to this work. Put up in 5-dwt. packages.

.....per package \$0.25

#### "EASY FLOWING" SILVER SOLDER WIRE

Suggested by Dr. Josef Grünberg, and recommended by Dr. Edward H. Angle
"Easy Flowing" Silver Solder appealed at once to all who used it. We are making it still more
useful by preparing it in wire form, .020 inch in diameter (No. 24 American Standard Gage). The
wire is coiled, with a sliding metal band to control it.
To use simply uncoil an inch or two of the wire, place the flux, bring the free end of the wire
to the spot to be soldered, and direct the flame upon it. Because of the low fusing point of the Solder,
the wire to expect the receded is maked off the and instantly the soldering is done and you have had no the minute quantity needed is melted off the end instantly, the soldering is done, and you have had no bother cutting and placing a small bit of solder.

More especially for orthodontists, but invaluable wherever minute quantities of solder are to be

Each coil contains five pennyweights. Per coil, 25 cents.

#### S. S. WHITE SOLDERING FLUID

The soldering operations of the dentist, especially in the construction of orthodontic appliances, usually involve small parts, requiring always delicacy of manipulation, at places sometimes awkward to get at for the placing of flux.

The S. S. White Soldering Fluid offers an unsurpassed flux easily applicable at any point without

risk of disturbing or displacing parts delicately adjusted for the fusing of the solder. The flux is held in solution in a liquid. A drop of this placed on the parts, quickly spreads over them, because of its fluidity, thus realizing the ideal conditions of distribution. Under the application of heat, the liquid promptly evaporates, leaving the flux coating the surfaces to be protected.

One great advantage is the minuteness of the quantity which may be used. A little pointed stick, like a wood toothpick, makes the best kind of a dropper for small operations. Where pieces of solder leaves them a pin head are used they may be dispred in the Fluid before being pleased.

larger than a pin head are used they may be dipped in the Fluid before being placed.

Price

#### SOLDERING FLUX PASTE

Formula of Dr. A. R. COOKE.

This fine dental Flux has for its foundation borax glass held in vaselin. It is very fine, free from the boiling up which disturbs the relation of parts and causes pits in the soldered piece, and the binder burns out without residue. It is very economical because so small a quantity is required to get the best results.

In half-ounce jars. \$0.15.

#### KNAPP'S METHOD OF ORTHODONTIA

Devised by Dr. M. A. KNAPP.

Patented Jan. 18, 1898; Jan. 24 and Sept. 12, 1899; Dec. 25, 1900

The special advantages claimed for Dr. Knapp's method of orthodontia are that it obviates the necessity of taking impressions and making models and of soldering bands or parts together.

Instead, the various devices are adjustable and detachable, ready as sold to be applied directly to the teeth of the patient. The parts are securely held together by ingenious locking devices, which are readily disengaged when desired.

The variety of sizes is sufficiently large to cover all the usual needs.

THE S.S. WHITE

All the parts are accurately interchangeable. Additional parts can be bought at any time, with the certainty that they will fit.

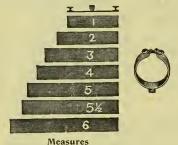
The devices can be used over and over again. Being readily separable, they can be conveniently cleansed and sterilized with hot water.

All the parts are made under Dr. Knapp's supervision, of high-grade German silver, and electro gilt.

#### List of Numbered Appliances, Measurements and Prices

The illustrations show nearly exact sizes, except those inclosed in brackets, which are magnified to show details of the small parts.

#### Studded Bands, Nos. 1 to 6, inclusive



Price, each \$0.50

#### Double Socket Clutch Bands Nos. 7 to 10, inclusive



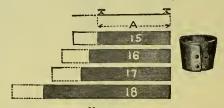
Measures
Price, each \$0.75

#### Single Socket Clutch Bands Nos. 11 to 14, inclusive



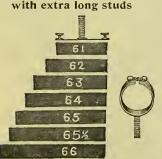
Measures Price, each \$0.60

#### Bite Bands, Nos. 15 to 18, inclusive



Measures Price, each \$0.50

## STUDDED BANDS



Measures
Price, each \$0.60

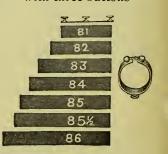
# BUTTON BANDS without studs



Measures

Price, each \$0.25

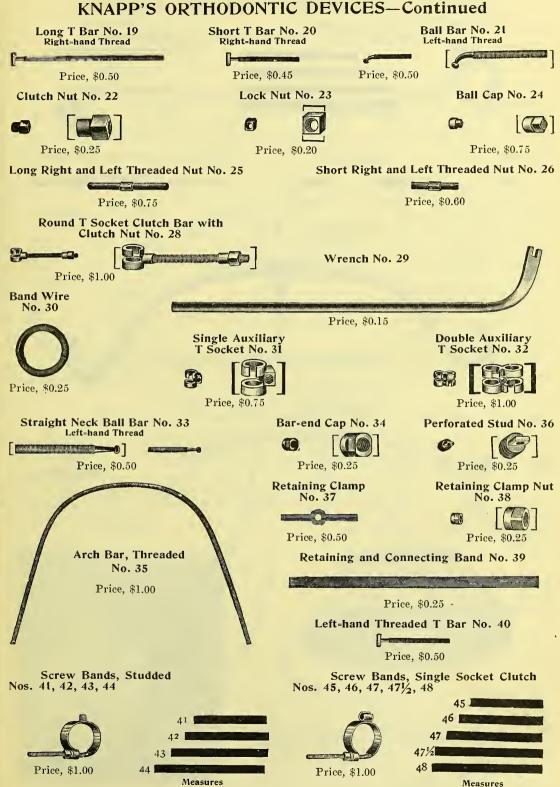
## LIGATURE BANDS with three buttons



Measures
Price, each \$0.35

THE S. S. WHITE DENTAL MFG. CO., Sole Sales Agent

#### KNAPP'S ORTHODONTIC DEVICES—Continued

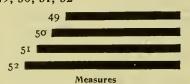


THE S. S. WHITE DENTAL MFG. CO., Sole Sales Agent

#### KNAPP'S ORTHODONTIC DEVICES—Continued

Screw Bands, Double-socket Clutch Nos. 49, 50, 51, 52





Stud Bar No. 53 Right-hand Thread

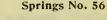
Price, \$0.50

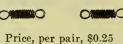
Stud Bar Nut No. 54

Price, \$0.75

Bar Hook No. 55





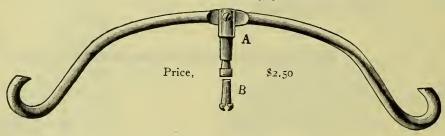


Right=handed Threaded Ball Bar No. 57

Price, \$0.50

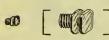
#### Protrusion Bow No. 58.

Patented December 25, 1900.



Extra Chucks B for No. 58...... \$0.75

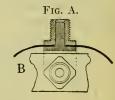
#### DETACHABLE STUD No. 59



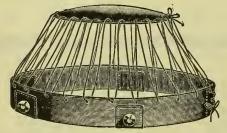
Price, \$0.75

Fig. A is a sectional drawing (enlarged) of the Detachable Stud No. 59. For use when an additional stud is needed on any of the tooth bands, 1 to 14, or 41 to 52.

The enlarged sectional and plan views show how the band may be punched and have the inner stud inserted to be fixed by screwing onto it the stud nut.



#### HEAD CAP No. 60



Price, \$2.00

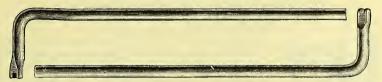
The Head Cap No. 60 for bringing force to bear upon the Protrusion Bow No. 58 is light, cool, and adjustable in all directions. The crown and band are made of kangaroo skin, which is thin, tough, and perfectly pliable. These parts are connected by a silk-cord drawing string, giving perfect freedom of adjustment. Metal studs placed in proper positions on the band afford attachment to the Protrusion Bow by means of rubber bands, through which the traction force is exerted. Six rubber bands are included in the price.

Bands separately set of 6 ..... \$0.25



Head Cap and Protrusion Bow in Position

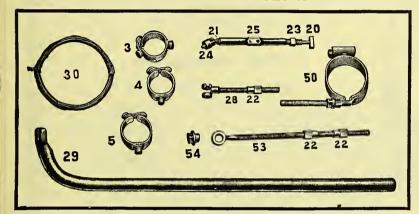
#### KNAPP'S ORTHODONTIC DEVICES—(Continued)



Right and Left Wrenches No. 70. Price, per pair \$0.25

Two Selections of the Knapp Orthodontic Devices Known as "Set A" and "Set B" are Put Up For Sale Regularly

" SET A"



"Set A" will suffice for many cases. It includes Nos. 3, 4, 5, 20, 21, 23, 24, 25, 28, 29, 30, 50, 53, 54, and three No. 22.

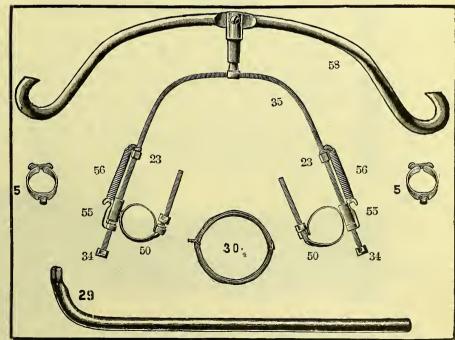
Price, "Set A," in

box ..... \$8.00

The box will also hold additional parts, which may be ordered by their numbers.

"SET B," FOR PROTRUSION

"Set B" will serve for many cases of major protrusion. The appliances will not loosen nor become detached during slumber, but the bow and bar and cap can be readily removed by the patient on occasion. The set contains Nos. 5. 23, 29, 30, 34, 35, 50, 55, 56, and 58.



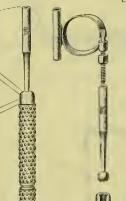
Price, "Set B" in box \$3.00

The S. S. White Dental Mfg. Co., Sole Sales Agent

## D-BAND HOLDER For Soldering Parts to Bands

338

Suggested by Dr. A. OPPENHEIM



Holding Dr. Angle's D Bands over the flame while soldering parts to them is much simplified by this Holder suggested by Dr. Oppenheim. The Holder proper is screw threaded internally to fit the thread of the band, and is attached to the handle by a ball-and-socket joint, giving it a range of more than 90 degrees. The holder is screwed on to the band a few turns to catch it firmly, and then adjusted to bring the part desired over the flame.

Price, D-band Holder ..... \$0.50

#### TUBE ADJUSTER

Suggested by Dr. Josef Grünberg.

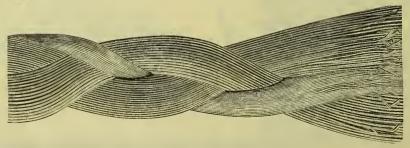
Sometimes after attaching an Angle D Band to a tooth you find that the tube does not align properly for the attachment of the various parts. To attempt to adjust

it with an ordinary instrument point is to invite dis-aster,—kinking the tube, injuring the threads, etc. With this Adjuster you avoid this risk. It is formed with a shoulder just as the inside of the tube is, and its two bearing surfaces are made to accurately fit the two calibers of the tube, so that the necessary movement is easily made without damage to the tube.

Price, Tube Adjuster ..... \$0.25

#### BRASS LIGATURE WIRE

Brass Ligature Wire for orthodontic operations, in Dr. Angle's opinion, vastly increases the value of the appliances to which it is ordinarily an auxiliary. The tough metal ligatures made of a specially drawn Brass Wire, have played an important part in orthodontia since their introduction by Dr. Angle in 1893. The great strength of the Wire, its cleanliness, freedom from slipping, its ease of adjustment and capability of being contracted by twisting are advantages extending the use of the ligature greatly. The sizes, the quality of metal, the temper will commend the metal ligature to all who try it. Three diameters, the two larger for moving teeth, the smallest for retention uses especially. In foot lengths, giving opportunity for a firm grasp with each hand, the ends to be cut off



after twisting. Each size is made up into a strand, and these braided loosely together, with both ends free, so that any particular wire can be pulled out without disturbing the others. Each braid contains about 100 pieces of the fine wire and 50 each of the medium and coarse. We also carry braids of each size separately. Put up in boxes.

Price, per braid, assorted or either size ...... \$0.50

#### LANE BLOWPIPE

For all Small Soldering Operations

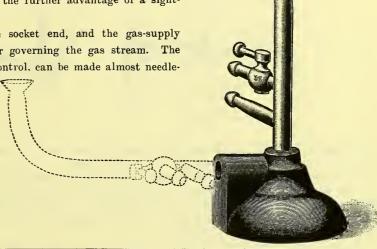
Designed by James G. Lane, D.D.S.

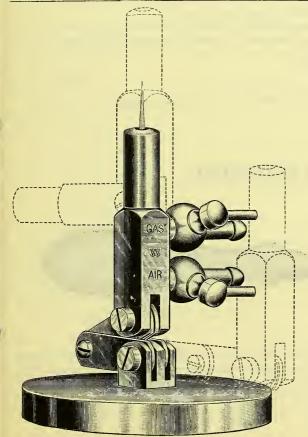
The tube of the Lane Blowpipe can be set vertically or horizontally, or changed from one to the other in a moment. In both positions the operator has the use of both hands, affording him greater control and facilitating the soldering of the most delicate point. The fixed flame confers the further advantage of a sighting point.

The tube is plugged at the socket end, and the gas-supply nipple has a lever stopcock for governing the gas stream. The flame, which is under perfect control, can be made almost needle-

pointed, with a length of not over an inch and a half. May be operated by the mouth or the foot bellows. The apparatus when the tube is in the vertical position is about 5½ inches high. Tube nickel plated; base japanned.

Price ..... \$2.00





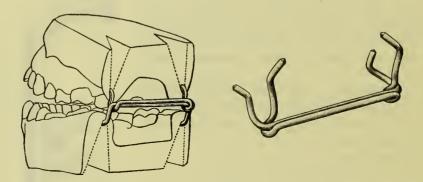
### THE GRÜNBERG **BLOWPIPE**

The illustration shows the exact size of this new blowpipe and with the dotted lines some of the positions in which it may be used. Its range of movement is so great that the flame may be made to point in any direction that the user desires. The flame may be varied from a needle point to a brush flame.

Price ..... \$3.00

#### ORTHODONTIA HINGE (Separable)

Patented December 1, 1908. Invented by Rudolf Sykora, D.M.D.



So many articulated models have to be kept for the records in orthodontia cases that the supplying of articulators for them becomes a serious expense.

This simple Hinge of Dr. Sykora's supplies a very cheap, efficient substitute. It consists of merely two pieces of brass wire so curved and twisted and interlocked with each other as to constitute an excellent hinge when properly attached to the models. You can open and close them and as the Hinge is attached after they have been properly articulated, there is no interference in this regard, and no risk of improper articulation.

The two parts are readily separable, as may be desirable for demonstrating a former articulation, so that in case of need, the models can be detached from each other.

The use of these Hinges also economizes space, as with them no more room is required than the models themselves occupy. They have also advantages in inspection, in that their presence does not interfere with the examination of the models from the rear end.

Four sizes, Nos. 1, 2, 3, 4, No. 1 the smallest.

THE S. S. WHITE DENTAL MFG. CO., Sole Sales Agent

# MOUTH DISTENDER

By the aid of this useful device the cheek can be held back by the patient so as to enable the operator to make a more thorough examination of the mouth; when filling back teeth it is in many cases invaluable. It also protects the corners of the mouth from irritation when using files, etc.

Britannia, nickel plated, with handle of polished hard wood.

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# A Safe Investment

Financiers before making permanent investments are sure to scrutinize the property closely,—they want to know if their money is safe. It is the same with buying an outfit for dental practice. It is a permanent investment when the outfit is wisely chosen.

If you will buy an S. S. White outfit, you begin getting profitable returns at once in the ease with which you work; and the outfit will continue to give back those returns till you feel that your investment has repaid you manyfold. A dentist known everywhere declared that of his outfit—S. S. White make entirely and in use 21 years—nearly all the articles are still as good as ever for practical uses. And this after they have earned him a competence.

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Let us send you our catalogs,—a postal-card request will bring them,—and they will help you to decide wisely.

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They get goods of the highest quality known to dentistry,—the World's standard.

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